**AMENDMENTS TO THE SPECIFICATION:**

Please replace the title with the following rewritten version:

-- COMBINATION WEIGHING DEVICE WITH MULTI-LAYERED HOPPERS HAVING CONTROLLABLE SUPPLY FUNCTION --.

Please replace the paragraph [0006] with the following rewritten version:

-- According to this device, an oversupply of articles to the weighing hoppers will be prevented when very small quantities of articles are supplied with vibrating feeders, and thus there is a high probability that combinations will be completed. In other words, in a combination weighing device that includes, for example, 10-12 weighing hoppers, a supply target value of articles to be supplied to each weighing hopper is set so that a combination will normally be complete with the weight ~~weigh~~ values of 3,4 weighing hoppers. Thus, according to this combination weighing device, the weight of the articles supplied to the weighing hoppers will be close to the supply target value, and thus there is a high probability that combinations will be completed. --

Please replace the paragraph [0013] with the following rewritten version:

-- However, this problem are ~~will~~ not ~~be~~ addressed ~~measuring measurement second aspect of the present invention is the combination weighing device according to the first aspect of the present invention the fifth aspect of the present invention is the combination weighing device according to one of the first through fourth aspects of the present invention a plurality of sets of hoppers, each set having a first hopper that stores articles and a second hoppers that is disposed above the first hopper to supply articles to the first hopper determining means that determines whether the combination calculation performed by the calculation means is complete performs combination calculation based on measurement values of articles of the first hoppers provided by the measuring devices performs, when a combination in the combination calculation performed by the calculating means was complete, combination calculation based on measurement values of articles in the second~~

~~hoppers and the first hoppers not selected in the combination calculation performed by the calculation means~~ in the combination weighing devices disclosed in the aforementioned Japanese Published Patent Application No. S63-250528, Japanese Published Utility Model No. H02-655, or Japanese Published Patent Application No. H07-63599. --

Please replace the paragraph [0015] with the following rewritten version:

-- In addition, the combination weighing device disclosed in Japanese Published Patent Application No. H07-63599 determines the weight values of the first articles supplied to the weight hoppers. Thus, for example, in the event that feedback control is to be performed on the quantity of articles supplied by the feeders, it will be too late to do so if ~~when~~ articles have already been supplied to the pool hoppers that supply articles from the feeders to the weighing hoppers in order to increase the speed of the process[[,]] . The ~~the~~ results of the feedback control will only be reflected in the next groups of articles supplied to the pool hoppers[[,]] . This ~~and this~~ will create problems in the responsiveness and convergence of the control. --

Please replace the paragraph [0019] with the following rewritten version:

-- The combination weighing device according to the first aspect of the present invention includes a plurality of sets of hoppers, each set having a first hopper and a second hopper, a plurality of measuring devices, calculating means, determining means, and additional supply means. The plurality of first hoppers store articles. The plurality of second hoppers are disposed above the plurality of first hoppers, each second hopper respectively corresponding to each first hopper and supplying articles to the corresponding first hopper. The plurality of measuring devices are arranged with respect to each of the plurality of first hoppers and plurality of second hoppers, the plurality of measuring devices measuring articles in the first hoppers or the second hoppers. The calculating means performs combination calculation based on measurement values of articles of the first hoppers provided by the measuring devices. The determining means determines whether or not a total measurement value of articles in first and second hoppers of one of the sets of hoppers exceeds a predetermined value when a combination in a combination calculation performed

by the calculating means was not complete. The total value is the sum of [[a]] measurement values of articles in the first and second hoppers of the same set. The additional supply means supplies additional articles from a second hopper to a first hopper when the determining means determines that the total value does not exceed the predetermined value. --

Please replace the paragraph [0021] with the following rewritten version:

-- The combination weighing device according to the second aspect of the present invention is the combination weighing device according to the first aspect of the present invention, wherein the determining means determines when the total measurement value of articles in first and second hoppers of the one of the sets of hoppers exceeds the predetermined value, whether or not the total measurement value of articles in first and second hoppers of another set of hoppers exceeds ~~will exceed~~ the predetermined value. --

Please replace the paragraph [0023] with the following rewritten version:

-- The combination weighing device according to the third aspect of the present invention is the combination weighing device according to the first or second aspect of the present invention, in which the predetermined value is the weight of articles in the first hopper that can be measured by the weighing device. --

Please replace the paragraph [0027] with the following rewritten version:

-- The combination weighing device according to the fifth aspect of the present invention is the combination weighing device according to one of the first through fourth aspects of the present invention, and further includes a plurality of feeders, supply quantity control means, and setting means. Each of the plurality of feeders respectively corresponds to each second hopper, and supplies articles to the corresponding second hoppers. The supply quantity control means controls the quantity of articles supplied from the feeder ~~feeders~~ to the second hopper ~~hoppers~~. The setting means sets a supply target value of articles supplied to the second hopper ~~hoppers~~ by the feeder ~~feeders~~. The supply quantity ~~target~~ control means controls the supply quantity based upon the weight value of articles in the

second hopper ~~hoppers so that the quantity of articles to be supplied from the feeders to the second hoppers~~ so that the quantity of articles supplied from the feeder ~~feeders~~ to the second hopper will equal the supply target value.

Please replace the paragraph [0032] with the following rewritten version:

-- A combination weighing device according to the seventh aspect of the present invention includes a plurality of first hoppers, a plurality of second hoppers, a plurality of feeders, supply quantity control means, a plurality of measuring devices, and calculating means. The plurality of first hoppers store articles. The plurality of second hoppers are disposed above the plurality of first hoppers, each second hopper respectively corresponding to each first hopper and supplying ~~storing~~ articles to ~~in~~ the corresponding first hopper. The plurality of feeders respectively correspond to each second hopper, and supply articles to the corresponding second hoppers. The supply quantity control means controls the quantity of articles supplied from the feeders to the second hoppers. The plurality of measuring devices are arranged with respect to each of the plurality of first hoppers and plurality of second hoppers, and weigh articles in the first hoppers or second hoppers. The calculating means employs measurement values of articles provided by the measuring devices to perform combination calculations. The supply quantity control means controls the quantity of articles supplied from the feeders to the second hoppers based upon the deviation between the measurement value of articles in the second hoppers and the supply target value of articles supplied from the feeders to the second hoppers. --

Please replace the paragraph [0035] with the following rewritten version:

-- A combination weighing device according to the eight aspect of the present invention includes a plurality of first hoppers, a plurality of second hoppers, a plurality of feeders, supply quantity control means, a plurality of weighing devices, and calculating means. The plurality of first hoppers store articles. [[;]] The plurality of second hoppers are disposed above the plurality of first hoppers, each second hopper respectively corresponding to each first hopper and supplying ~~storing~~ articles to ~~in~~ the corresponding first hopper. The plurality of feeders respectively correspond to each second hopper, and supply articles to the

corresponding second hoppers. The supply quantity control means controls the quantity of articles supplied from the feeders to the second hoppers. The plurality of measuring devices are arranged with respect to each of the plurality of first hoppers and plurality of second hoppers, and measure articles in the first hoppers or second hoppers. The calculation means performs combination calculation based on measurement values of articles of the first hoppers provided by the measuring devices. Then, the supply quantity control means controls the quantity of articles to be supplied from the feeders to the second hoppers so that the total of the weight value of articles in the second hopper and the weight value of articles in the first hoppers that correspond to the second hoppers does not exceed the predetermined value. --

Please replace the paragraph [0037] with the following rewritten version:

-- A combination weighing device according to the ninth aspect of the present invention includes a plurality of sets of hoppers, each set having a first hopper that stores articles and a second hoppers that is disposed above the first hopper to supply articles to the first hopper, a plurality of measuring devices, calculating means, determining means, selection means, and additional supply means. The plurality of first hoppers store articles. The plurality of second hoppers are disposed above the plurality of first hoppers, each second hopper respectively corresponding to each first hopper and supplying ~~storing~~ articles to ~~in~~ the corresponding first hopper. The plurality of measuring devices that are arranged with respect to each of the plurality of first hoppers and plurality of second hoppers, and measure articles in the first hoppers or second hoppers. The calculating means performs combination calculation based on measurement values of articles of the first hoppers provided by the measuring devices. The determining means determines whether the combination calculation performed by the calculation means is complete. The selection means performs combination calculation based on measurement values of articles of the first and second hoppers when the combination calculation performed by the calculating means was not complete. The additional supply means supplies articles from the second hopper selected by the selection means to the corresponding first hopper if the selection means selects the second hopper as a result of the combination calculation. --

Please replace the paragraph [0039] with the following rewritten version:

-- A combination weighing device according to the tenth aspect of the present invention includes a plurality of sets of hoppers, each set having a first hopper that stores articles and a second hopper ~~hoppers~~ that is disposed above the first hopper to supply articles to the first hopper, a plurality of measuring devices, calculating means, and secondary calculation means. The plurality of first hoppers store articles. The plurality of second hoppers are disposed above the plurality of first hoppers, each second hopper respectively corresponding to each first hopper and supplying ~~storing~~ articles to ~~in~~ the corresponding first hopper. The plurality of measuring devices are arranged with respect to each of the plurality of first hoppers and plurality of second hoppers, and weigh articles in the first hoppers or second hoppers. The calculation means performs combination calculation based on measurement values of articles of the first hoppers provided by the measuring devices. The secondary calculating means performs, when a combination in the combination calculation performed by the calculating means was complete, combination calculation based on measurement values of articles in the second hoppers and the first hoppers not selected in the combination calculation performed by the calculation means. --

Please replace the paragraph [0089] with the following rewritten version:

-- Pool ~~Weighing~~ hoppers 115, weighing ~~pooling~~ hoppers 116, weighing detectors 115a and 116a, feeders 114, and gate open/close mechanisms 115b and 116b are conventional components that are well known in the art. Therefore, these structures will not be discussed or illustrated in further detail herein. --

Please replace the paragraph [00107] with the following rewritten version:

-- At Step S124, ~~after~~ the weight $W_P$ is input from the pool hopper 115, and at Step S125 the supply target value $W_{PO}$ is set to the default supply target value $W_{PD}$. --

Please replace the paragraph [00108] with the following rewritten version:

-- At Step S126, if it is determined that the weighing hopper 116 that corresponds to the pool hopper 115 is not empty, the process will proceed to Step S129. On the other hand,

if it is determined that the weighing hopper 116 that corresponds to the pool hopper 115 is empty, articles are supplied from the pool hopper 115 to the weighing hopper 116 in Step S127, and the combination calculation control and ~~or~~ the additional supply control shown in Steps S128 to S137 proceed concurrently with the aforementioned control that begins from Step S122. Note that the combination calculation control shown in Steps S128 to S132 is identical to that of Steps S106 to S110, and thus a description thereof will be omitted.

Please replace the paragraph [00111] with the following rewritten version:

-- If it is determined that the answer is "NO" in Step S135, then this means that an additional supply is allowed, and thus at Step S136, the total value $W_W + W_P$ is subtracted from the weight limit value $W_L$ and it is determined whether or not the value obtained thereby exceeds the supply target value $W_{PD}$ ~~$W_{PO}$~~. --

Please replace the paragraph [00114] with the following rewritten version:

-- On the other hand, if it is determined that the answer is "YES" in Step S135, then additional articles will not be supplied because it is predicted that an over-scale state will result if additional articles are supplied. Therefore, the process will return to Step S129, and the weighing hopper 116 will participate in the next combination calculation. --

Please replace the paragraph [00119] with the following rewritten version:

-- At Step S143, the weight value $W_P$ from the pool hopper 115 is input, and the combination calculation control and ~~or~~ the additional supply control shown in Steps S144 to S153 proceed concurrently with feedback control of the supply of articles from the feeder 114 to the pool hopper 115 shown in Steps S154 to S157. Note that the control shown in Steps S144 to S153 is substantially identical to that of Steps S104 to S113, and thus a description thereof will be omitted. --

Please replace the paragraph [00123] with the following rewritten version:

-- In other words, with conventional combination weighing devices, when feedback control of the amount of articles supplied by the feeder is conducted based upon the weight from the weighing hopper, articles are supplied from the pool hopper to the weighing hopper and the weight of the articles therein is ~~are~~ then measured. Thus, feedback control is performed from this point in time based upon the weight of the articles. In contrast, with the combination weighing device 101, feedback control of the amount of articles supplied to the feeder 114 can be conducted based upon the weight value $W_P$ at the point at which articles are supplied from the feeder 114 to the pool hopper 115. Thus, the time lag from the point at which the weight value $W_P$ is measured to the point at which feedback control is executed will be reduced, and both responsiveness and convergence to the control will be improved. In other words, operating efficiency will improve due to the increase in process speed. --

Please replace the paragraph [00128] with the following rewritten version:

-- At Step S163, the weight values $W_P$-$W_P$ from the pool hoppers 115-115 are input, and the combination calculation control and ~~or~~ the additional supply control shown in Steps S164 to S169 proceed concurrently with feedback control of the supply of articles shown in Steps S170 to S173. --

Please replace the paragraph [00131] with the following rewritten version:

-- In the feedback control of steps S170-S173, deviations $\Delta W$-$\Delta W$ between the weight values $W_P$-$W_P$ of articles actually supplied to the pool hoppers 115-115 and the predetermined supply target value $W_{PO}$ of articles to be supplied from the feeders 114-114 to the pool hoppers 115-115 are [[is]] calculated in Step S170. Then, in Step S171, if it is determined that the deviations $\Delta W$-$\Delta W$ are smaller than a predetermined allowable value $-\alpha$ with respect to the supply target value $W_{PO}$, one unit $\Delta A$ is added to the initial control variable A of the feeders 114-114 to produce a new control variable A in Step S172, and then the process returns to Step S161. In addition, in Step S171, if it is determined that a deviation $\Delta W$ is larger than a predetermined allowable value $\alpha$ with respect to the supply target value $W_{PO}$, one unit $\Delta A$ is subtracted from the initial control variable A of the feeders 114-114 to produce a new control variable A in Step S173, and then the process returns to Step S161.

Then, in Step S171, if it is determined that a deviation $\Delta W$ is within a predetermined allowable range of $-\alpha \leq \Delta W \leq \alpha$ with respect to the supply target value $W_{PO}$, the process simply returns to Step S161. --

Please replace the paragraph [00151] with the following rewritten version:

-- Pool ~~Weighing~~ hoppers 15, weighing ~~pooling~~ hoppers 16, weighing detectors 15a and 16a, feeders 14, and gate open/close mechanisms 15b and 16b are conventional components that are well known in the art. Therefore, these structures will not be discussed or illustrated in further detail herein. --

Please replace the paragraph [00156] with the following rewritten version:

-- At Step S3, after the gate open/close mechanisms 15b-15b of the pool hoppers 15-15 are driven and the articles X-X are supplied from the pool hoppers 15-15 to the weighing hoppers 16-16, the weight values of the articles X-X are input from the weight detectors 16a-16a connected to the weighing hoppers 16-16. Note that in this situation, the weight detectors 16a-16a connected to the weighing hoppers 16-16 will confirm the weight values from the pool hoppers 15-15. In addition, because this is immediately after the combination weighing device 1 began operation, weighing hoppers $16_1$-$16_6$ are all empty at first, and then the articles $X_{11}$-$X_{61}$ are respectively supplied to and stored in the weighing hoppers $16_1$-$16_6$ ~~$15_6$~~ (see Figures 11(a), 11(b)). --

Please replace the paragraph [00178] with the following rewritten version:

[0001] At Step S36, after a quantity of article X that completes the secondary combination (i.e., a [[an]] quantity that will complete the primary combination in the next primary combination calculation) is supplied to the empty target pool hopper 15 of the secondary combination calculation from a feeder 14, the weight value of the article X is input. Then in Step S37, it is determined whether or not there is an empty pool hopper 15 that supplies additional article X to a target weight hopper 16. In Figure 12(a), the pool hopper

$15_3$ corresponding to a target weighing hopper $16_3$ that is to be supplied with additional article X is empty, and thus satisfies this requirement.

Please replace the paragraph [00180] with the following rewritten version:

-- Step S38 will be described here in detail. As shown in Figure 15, in Step S38A it is determined whether or not a value $W_L - W_W$ obtained by subtracting the weight value $W_W$ of article $X_{32}$ in the weighing hopper $16_3$ from a predetermined weight limit value $W_L$ of the weighing hopper $16_3$ exceeds the supply target value $\underline{W_{PD}}$ ~~$W_{PO}$~~. The weight limit value $W_L$ is the maximum weight of article X that can be supplied to a weighing hopper 16 without resulting in an over-scale state. Note that an over-scale state is also created by supplying a volume of article X that exceeds the maximum allowable capacity of a weighing hopper 16. [[, however]] However, in this situation, the density of article X may be used to convert the value of the maximum allowable capacity to a maximum allowable weight value, and this maximum allowable weight value may be employed instead of the weight limit value $W_L$. --

Please replace the paragraph [00192] with the following rewritten version:

-- If it is determined that the answer is "YES" in Step S55, then a plurality of primary combinations are stored in the memory 20a in the order of their degree of accuracy with respect to the target weight. In this situation, the most accurate combination is the two weighing hoppers $16_1$, $16_3$, i.e., the articles $X_{11}$, $X_{31}$. --

Please replace the paragraph [00199] with the following rewritten version:

-- By performing this type of process, a plurality of primary combinations will be calculated during a primary combination calculation and will be stored in the memory 20a in the order of their accuracy, and when a secondary combination is not complete when a secondary combination calculation based upon the most accurate primary combination is performed, a secondary combination calculation based upon the next most accurate primary combination can be performed. In other words, a primary combination that completes a secondary combination during a secondary combination calculation can be selected from

amongst the primary combinations during a primary combination calculation. Thus, the accuracy of a combination can be maintained while the next primary combination is completed. --

Please replace the paragraph [00205] with the following rewritten version:

-- By performing this type of process, even if the results of a primary combination calculation indicate that a primary combination is not complete, additional article X will be supplied from a pool hopper 15 to a weighing hopper 16 so that the primary combination will be complete. Because of this, supplying additional articles is more effective ~~process means~~ when a primary combination is not complete. --

Please replace the paragraph [00212] with the following rewritten version:

-- As used herein, the following directional terms "forward, rearward, above, downward, vertical, horizontal, below and transverse" as well as any other similar directional terms refer to those directions of an apparatus ~~a vehicle~~ equipped with the present invention. Accordingly, these terms, as utilized to describe the present invention should be interpreted relative to an apparatus ~~a vehicle~~ equipped with the present invention.

~~SECOND EMBODIMENT~~ --

Please replace the Abstract with the following rewritten version:

-- In a combination weighing device, weight measurement devices are respectively connected to pool hoppers and weighing hoppers. When the results of a combination calculation indicate that a combination is not complete, a control unit determines whether or not a total value of a weight value from predetermined weighing hoppers and a weight value from pool hoppers that supply articles to the weight hoppers exceeds a predetermined value. Thus, an over-scale state in the weighing hoppers can be avoided by supplying additional articles stored in the pool hoppers to the weighing hoppers. The present invention [[-]] provides a combination weighing device that is capable of improving operational efficiency. --